

**LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT(S)' INFORMATION DISCLOSURE  
STATEMENT**

(Use several sheets if necessary)

TITLE

**COMPOSITION AND METHOD FOR  
RECONSTITUTING I $\kappa$ B KINASE IN YEAST AND  
METHODS OF USING SAME**

ATTY. DOCKET NO.

13761-7064

SERIAL NO.

10/079.949

INVENTOR

Zandi. et al.

FILING DATE

February 19, 2002

GROUP ART UNIT

1645

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAM'R INITIAL	DOCUMENT NUMBER	DATE	NAME	Class	Subclass	Filing Date If Appropriate
	A1.					
	A2.					
	A3.					
	A4.					

## FOREIGN PATENT DOCUMENTS

EXAM'R INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	Subclass	TRANSLAT'N
	B					yes no
	B3					
	B2					
	B4					

## OTHER ART (Include Author, Title, Date, Pertinent Pages, etc.)

RP	C1.	Auphan, N., J. A. DiDonato, C. Rosette, A. Helmborg, and M. Karin 1995. Immunosuppression by glucocorticoids: inhibition of NF-kappa B activity through induction of I kappa B synthesis. Science. 270:286-290.
RP	C2.	Baeuerle, P. A., and D. Baltimore 1988. I kappa B: a specific inhibitor of the NF-kappa B transcription factor. Science. 242:540-546.
RP	C3.	Baud, V., Z.-G. Liu, B. Bennett, N. Suzuki, Y. Xia, and M. Karin 1999. Signaling by proinflammatory cytokines: oligomerization of TRAF2 and TRAF6 is sufficient for JNK and IKK activation and target gene induction via an amino-terminal effector domain. Genes & Develop. 13:1297-1308.
RP	C4.	Beg, A. A., and D. Baltimore 1996. An essential role for NF-kappa-B in preventing TNF-alpha-induced cell death. Science. 274:782-784.
RP	C5.	Beg, A. A., W. C. Sha, R. T. Bronson, S. Ghosh, and D. Baltimore 1995. Embryonic lethality and liver degeneration in mice lacking the RelA component of NF-kappa B. Nature. 376:167-169.
RP	C6.	Brach, M. A., R. Hass, M. L. Sherman, H. Gunji, and R. Weichselbaum 1991. Ionizing radiation induces expression and binding activity of the nuclear factor kappa B. J. Clin. Invest. 88:691-695.
RP	C7.	Christianson, T. W., R. S. Sikorski, M. Dante, J. H. Shero, and P. Hieter 1992. Multifunctional yeast high-copy-number shuttle vectors. Gene. 110:119-122.

EXAMINER

Rebecca Pouty

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RP	C8.	DiDonato, J. A., M. Hayakawa, D. M. Rothwarf, E. Zandi, and M. Karin 1997. A cytokine-responsive I $\kappa$ appaB kinase that activates the transcription factor NF-kappaB. Nature. 388:548-554.
RP	C9.	Gill, J. S., and A. J. Windebank 2000. Ceramide initiates NFkappaB-mediated caspase activation in neuronal apoptosis. Neurobiol. Dis. 7:448-461.
RP	C10.	Gilmore, T. D., M. Koedood, K. A. Piffat, and D. W. White 1996. Rel/NF-kappa-B proteins and cancer. Oncogene. 13:1367-1378.
RP	C11.	Guttridge, D. C., M. W. Mayo, L. V. Madrid, C. Y. Wang, and A. S. Baldwin, Jr. 2000. NF-kappaB-induced loss of MyoD messenger RNA: possible role in muscle decay and cachexia. Science. 289:2363-2366.
RP	C12.	Huynh, Q. K., H. Boddupalli, S. A. Rouw, C. M. Koboldt, T. Hall, C. Sommers, S. D. Hauser, J. L. Pierce, R. G. Combs, B. A. Reitz, J. A. Diaz-Collier, R. A. Weinberg, B. L. Hood, B. F. Kilpatrick, and C. T. Tripp 2000. Characterization of the recombinant IKK1/IKK2 heterodimer. J. Biol. Chem. 275:25883-25891.
RP	C13.	Lee, H. H., H. Dadgostar, Q. Cheng, J. Shu, and G. Cheng 1999. NF-kB-mediated up-regulation of Bcl-x and Bfl-1/A1 is required for CD40 survival signaling in B lymphocytes. Proc. Natl. Acad. Sci. U.S.A. 96:9136-9141.
RP	C14.	Lee, J. I., and G. J. Burckart 1998. Nuclear factor kappa B: important transcription factor and therapeutic target. J. Clin. Pharm.. 38:981-993.
RP	C15.	Li, N., and M. Karin 1998. Ionizing radiation and short wavelength UV activate NF-kappaB through two distinct mechanisms. Proc. Natl Acad. Sci U.S.A. 95:13012-13017.
RP	C16.	Li, Q., D. VanAntwerp, D. Mercurio, K. F. Lee, and I. M. Verma 1999. Severe liver degeneration in mice lacking the I $\kappa$ B kinase 2 gene. Science. 284:321-325.
RP	C17.	Liu, Z. G., H. L. Hsu, D. V. Goeddel, and M. Karin 1996. Dissection of TNF receptor 1 effector functions -- JNK activation is not linked to apoptosis while NF-kappa-B activation prevents cell death. Cell. 87:565-576.
RP	C18.	Makris, C., V. L. Godfrey, G. Krahn-Senflehen, T. Takahashi, J. L. Roberts, T. Schwarz, L. Feng, R. S. Johnson, and M. Karin 2000. Female mice heterozygous for IKK gamma/NEMO deficiencies develop a dermatopathy similar to the human X-linked disorder incontinentia pigmenti. Mol. Cell. 5:969-979.
RP	C19.	May, M. J., F. D'Acquisto, L. A. Madge, J. Glockner, J. S. Pober, and S. Ghosh 2000. Selective inhibition of NF-kappaB activation by a peptide that blocks the interaction of NEMO with the I $\kappa$ appaB kinase complex. Science. 289:1550-1554.

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RP	C20.	Mercurio, F., H. Zhu, B. W. Murray, A. Shevchenko, B. L. Bennett, J. Li, D. B. Young, M. Barbosa, M. Mann, A. Manning, and A. Rao 1997. IKK-1 and IKK-2: cytokine-activated I $\kappa$ B kinases essential for NF- $\kappa$ B activation. Science. 278:860-866.
RP	C21.	Mosialos, G. 1997. The role of Rel/NF- $\kappa$ B proteins in viral oncogenesis and the regulation of viral transcription. Sem. Cancer Biol. 8:121-129.
RP	C22.	Mumberg, D., R. Muller, and M. Funk 1994. Regulatable promoters of <i>Saccharomyces cerevisiae</i> : comparison of transcriptional activity and their use for heterologous expression. Nuc. Acids Res. 22:5767-5768.
RP	C23.	Osborn, L., S. Kunkel, and G. J. Nabel 1989. Tumor necrosis factor alpha and interleukin 1 stimulate the human immunodeficiency virus enhancer by activation of the nuclear factor kappa B. Proc. Natl. Acad. Sci. U.S.A. 86:2336-2340.
RP	C24.	Pahl, H. L. 1999. Activators and target genes of Rel/NF- $\kappa$ B transcription factors. Oncogene. 18:6853-6866.
RP	C25.	Ray, A., and K. E. Prefontaine 1994. Physical association and functional antagonism between the p65 subunit of transcription factor NF- $\kappa$ B and the glucocorticoid receptor. Proc. Natl. Acad. Sci. U.S.A. 91:752-756.
RP	C26.	Roshak, A. K., J. R. Jackson, K. McGough, M. Chabot-Fletcher, E. Mochan, and L. A. Marshall 1996. Manipulation of distinct NF- $\kappa$ B proteins alters interleukin-1-induced human rheumatoid synovial fibroblast prostaglandin E2 formation. J. Biol. Chem. 271:31496-31501.
RP	C27.	Rothwarf, D. M., E. Zandi, G. Natoli, and M. Karin 1998. IKK- $\gamma$ is an essential regulatory subunit of the I $\kappa$ B kinase complex. Nature. 395:297-300.
RP	C28.	Rudolph, D., W.-C. Yeh, A. Wakeham, B. Rudolph, D. Nallainathan, J. Potter, A. J. Elia, and T. W. Mak 2000. Severe liver degeneration and lack of NF- $\kappa$ B activation in NEMO/IKK $\gamma$ -deficient mice. Genes & Develop. 14:854-862.
RP	C29.	Sakurada, S., T. Kato, and T. Okamoto 1996. Induction of cytokines and ICAM-1 by proinflammatory cytokines in primary rheumatoid synovial fibroblasts and inhibition by N-acetyl-L-cysteine and aspirin. Int. Immunol. 8:1483-1493.
RP	C30.	Schreck, R., K. Albermann, and P. A. Baeuerle 1992. Nuclear factor kappa B: an oxidative stress-responsive transcription factor of eukaryotic cells (a review). Free Radic. Res. Commun. 17:221-237.
RP	C31.	Sen, R., and D. Baltimore 1986. Inducibility of kappa immunoglobulin enhancer-binding protein NF- $\kappa$ B by a posttranslational mechanism. Cell. 47:921-928.

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RP	C32.	Siebenlist, U., G. Franzoso, and K. Brown 1994. Structure, regulation and function of NF-kappa B. Annu. Rev. Cell Biol. 10:405-455.
RP	C33.	Stehlik, C., R. de Martin, I. Kumabashiri, J. A. Schmid, B. R. Binder, and J. Lipp 1998. Nuclear factor (NF)-kB-regulated X-chromosome-linked iap gene expression protects endothelial cells from tumor necrosis factor -induced apoptosis. J. Exp. Med. 188:211-216.
RP	C34.	VanAntwerp, D. J., S. J. Martin, T. Kafri, D. R. Green, and I. M. Verma 1996. Suppression of TNF-alpha-induced apoptosis by NF-kappa-B. Science. 274:787-789.
RP	C35.	VanAntwerp, D. J., S. J. Martin, I. M. Verma, and D. R. Green 1998. Inhibition of TNF-induced apoptosis by NF-kappa B. Trends Cell Biol. 8:107-111.
RP	C36.	Wang, C. Y., M. W. Mayo, and A. S. Baldwin 1996. TNF- and cancer therapy-induced apoptosis-- potentiation by NF-kappa B. Science. 274:784-787.
RP	C37.	Wang, C. Y., M. W. Mayo, R. G. Korneluk, D. V. Goeddel, and A. S. Baldwin, Jr. 1998. NF-kappa B antiapoptosis: induction of TRAF1 and TRAF2 and c-IAP1 and c-IAP2 to suppress caspase-8 activation. Science. 281:1680-1683.
RP	C38.	Weber, C. K., S. Liptay, T. Wirth, G. Adler, and R. M. Schmid 2000. Suppression of NF-kappaB activity by sulfasalazine is mediated by direct inhibition of IkappaB kinases alpha and beta. Gastroenterology. 119:1209-1218.
RP	C39.	Yin, M.-J., Y. Yamamoto, and R. B. Gaynor 1998. The anti-inflammatory agents aspirin and salicylate inhibit the activity of I(kappa)B kinase-beta. Nature. 396:77-80.
RP	C40.	You, M., P.-T. Ku, R. Hrdlickova, and H. R. Bose, Jr. 1997. ch-IAP1, a member of the inhibitor-of-apoptosis protein family, is a mediator of the antiapoptotic activity of the v-Rel oncoprotein. Mol. Cell. Biol. 17:7328-7341.
RP	C41.	Yujiri, T., M. Ware, C. Widmann, R. Oyer, D. Russell, E. Chan, Y. Zaitzu, P. Clarke, K. Tyler, Y. Oka, G. R. Fanger, P. Henson, and G. L. Johnson 2000. MEK kinase 1 gene disruption alters cell migration and c-Jun NH <sub>2</sub> -terminal kinase regulation but does not cause a measurable defect in NF- $\kappa$ B activation. Proc. Natl. Acad. Sci. U.S.A. 97:7272-7277.
RP	C42.	Zandi, E., Y. Chen, and M. Karin 1998. Direct phosphorylation of IkappaB by IKKalpha and IKKbeta: discrimination between free and NF-kappaB-bound substrate. Science. 281:1360-1363.
RP	C43.	Zandi, E., and M. Karin 1999. Bridging the gap: composition, regulation, and physiological function of the IkB kinase complex. Mol. Cell. Biol. 19:4547-4551.

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Rebecca Raulo

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CP	C44.	Zandi, E., D. M. Rothwarf, M. Delhase, M. Hayakawa, and M. Karin 1997. The I $\kappa$ appaB kinase complex (IKK) contains two kinase subunits, IKKalpha and IKKbeta, necessary for I $\kappa$ appaB phosphorylation and NF-kappaB activation. Cell. 91:243-252.
CP	C45.	Zhang, S. Q., A. Kovalenko, G. Cantarella, and D. Wallach 2000. Recruitment of the IKK signalosome to the p55 TNF receptor: RIP and A20 bind to NEMO (IKK $\gamma$ ) upon receptor stimulation. Immunity. 12:301-311.
CP	C46.	Watson, J.D., Hopkins, N.H., Roberts, L.W., Steitz, L.A., and Weiner, A.M. 1987. In Molecular Biology of the Gene, Vol. 1, pp. 550-594. Benjamin/Cummings, Menlo Park, CA.

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